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A NEW SPECIES OF *AGELAIA* LEPELETIER FROM BRAZILIAN AMAZONIA (HYMENOPTERA: VESPIDAE; POLISTINAE)

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Abstract.—A new species of the polistine genus *Agelaia* Lepeletier is described, and its relationships to other species of the genus are discussed.

The genus *Agelaia* Lepeletier (=*Stelopolybia* Ducke) is a representative of the swarming genera of the subfamily Polistinae, with essentially neotropical distribution. These genera constitute the tribe Epiponini (Carpenter, 1993). *Agelaia* has had a tangled history of name changes, documented in Araujo (1946), Richards (1978) and Carpenter and Day (1988). In the most recent taxonomic revision by Richards (1978), the genus included 22 described species.

While studying the collection of Polistinae of the Goeldi Museum, OTS discovered an undescribed species of *Agelaia* from the state of Acre. This species is close to *A. lobipleura* (Richards), and like that species shares some features with *A. cajennensis* (F.) and *A. brevistigma* (Richards). Together, these genera evidently constitute a monophyletic group.

Agelaia acreana, new species
(Fig. 1)

Diagnosis: Almost entirely yellow species; eyes distinctly hairy; clypeus with lateral margins little sinuate, diverging slightly dorsoventrally at mid-height, and markedly separated from eyes; malar space with a shining area lacking hairs; subantennal sulci evanescent (Fig. 1A); anterior margin of pronotum, at the ventral corner, with a well developed transparent lamella, but not produced very far forward (Fig. 1D); forewing with prestigma about one and a half times as long as wide, tip rounded.

Description:

Female: mean forewing length 11 mm. *Structure*—cuticle dull, very finely reticulate; clypeus broader than high, lateral margins little sinuate, diverging dorsoventrally at mid-height and markedly separated from eyes (Fig. 1A); malar space long, distance between eye and upper margin of clypeal lateral lobe almost as high as antennal socket, malar space with a slightly concave shining area lacking hairs; interantennal prominence weakly produced, with a gently convex profile as seen from above (Fig. 1B); frons with a feeble, frequently interrupted, impressed median line; subantennal sulci evanescent; posterior ocelli separated by a distance about equal to their diameter; POOL:OOL about ¼; head narrowed proportionally in lateral view, upper part of gena slightly narrower than eye in profile (Fig. 1C), occipital carina weakly developed up to middle of the swollen portion of the eye; dorsal pronotal carina very

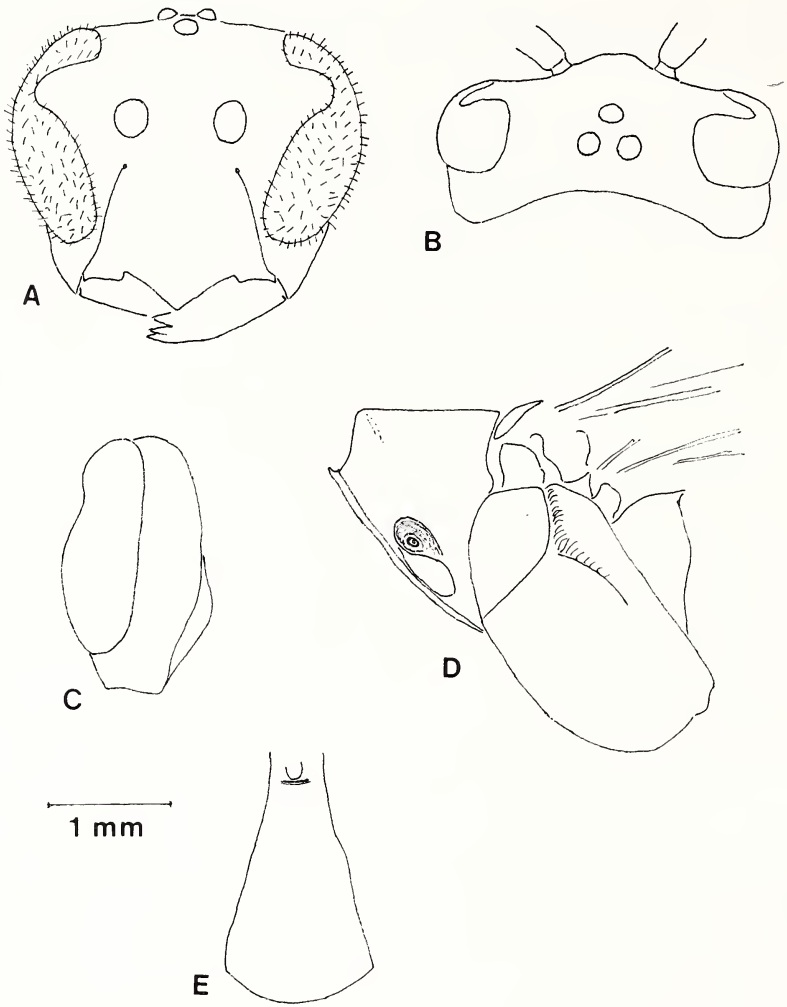

Fig. 1. *Agelaia acreana*, n. sp. A—head in frontal view; B—head in dorsal view; C—head in lateral view; D—pronotum and mesepisternum in lateral view; E—first metasomal tergum in dorsal view.

weak and obtuse but recognizable laterally; frontal margin of pronotum with a moderately developed transparent lamella widening above; fovea well developed, circular, in center of a wide concavity (Fig. 1D); anterior pronotal carina obtuse in front of fovea, lower part swollen and round; dorsal mesepisternal plate unusually wide, its height less than two times its width (Fig. 1D); impressed line on scutellum sometimes weak but distinct in front; propodeal furrow wide, not very shallow and moderately well defined; propodeal valves with a broad hyaline border; first metasomal tergum with the sides diverging gradually, spiracles not projecting (Fig. 1E);

forewing with prestigma rather long, about one and a half times as long as broad, tip rounded.

Color—yellow, but the extensive reddish pubescence gives a darker shade to the head and mesoscutum; antennal flagellum orange-yellow; ventral margin of lower metapleural plate, posterior margin and median furrow of propodeum, mesal portion of propodeal valves around the suspensory ligament, black or dark brown; most of dorsal aspect of metasomal tergum I, broad posterior bands on terga II to V, brown or light brown; wing yellow-brown, tegula yellow.

Vestiture—abundant outstanding bristle-like hairs all over the body, less conspicuous on meso- and metapleura; eyes with numerous strong, moderately long hairs.

Male: Unknown.

Type material: holotype female, Brazil: Acre, Rio Branco (25/x-8/xi-1991) F. Ramos, A. Henriques, I. Gorayeb, N. Bittencourt. Paratypes: 11 females, Acre, Rio Branco (25/x-8/xi-1991) F. Ramos, A. Henriques, I. Gorayeb, N. Bittencourt.

Holotype and 9 paratypes deposited in the collection of the Museu Paraense Emílio Goeldi, Belém, Brazil. Two paratypes in the American Museum of Natural History.

Distribution: Brazil, state of Acre.

Etymology: The specific name *A. acreana* is a reference to the Brazilian state of Acre.

REMARKS

Agelaia acreana has some uncommon features which are shared with *A. lobipleura, A. cajennensis* and *A. brevistigma.* One of these features, previously noted to occur only in the latter two species (Richards, 1978), is the presence in the malar space of a slightly concave shining area lacking hairs. Richards (1978:237, 241) characterized this area as indistinct in *A. cajennensis*, but the condition varies, and we have seen many specimens with a distinct, shining pale area, like that stated to characterize *A. brevistigma.* In *A. lobipleura* this area may have the same color as the adjacent parts of gena (it is differently colored in one paratype from Mato Grosso we have seen), but it is nevertheless distinguishable by the shining aspect and the absence of hairs. In *A. acreana* this area is as distinct as in many *A. cajennensis*, being slightly different in color from adjacent parts.

In the key of Richards (1978), an important character separating *A. cajennensis* and *A. brevistigma* from the remaining species of *Agelaia* is the shape of the prestigma of the forewing, the prestigma being relatively longer, at least one and a half times as long as broad, with the end rounded. In most *Agelaia* species it is short, not or little longer than broad, with the end truncate or pointed. The length of the prestigma actually varies in both *A. cajennensis* and *A. brevistigma*, and in *A. acreana* the prestigma has precisely the same shape as in *A. brevistigma.* Although Richards (1978) stated that in *A. lobipleura* the prestigma is short with the end truncate, we have noted that in this species (seven specimens were examined) it indeed has the end rather truncate, but it is longer than usual and never wedge-shaped as in most *Agelaia* species.

Another character shared by the above mentioned four species is the tendency shown by the lateral margins of the clypeus being divergent dorsoventrally in the middle portion, and little or not sinuate (Fig. 1A). This is accompanied by reduced

contact between the clypeus and the eyes in *A. lobipleura* and *A. cajennesis*, and complete separation in *A. acreana* and *A. brevistigma* (and a few specimens of *A. cajennesis*). These features are approached somewhat in a few other species such as *A. constructor, A. flavipennis* and *A. areata.*

The species-level phylogeny of *Agelaia* has not been studied, nor is there even a formal infrageneric classification (Richards, 1978). However, from the morphological evidence discussed above, it seems clear that *A. lobipleura, A. acreana, A. cajennensis* and *A. brevistigma* together form a monophyletic group. The presence of a concave shining area in the malar space is unique in these species, and an elongate prestigma is very probably a derived character within *Agelaia.* Besides the restricted distribution within this genus, in the closely related genus *Angiopolybia* Araujo, the prestigma is short and truncate in *A. paraensis* and *A. obidensis.* In *A. pallens*, it is sometimes longer with the end rounded, but there is much intraspecific variation. Furthermore, if the very weak dorsal pronotal carina of *A. lobipleura* and *A. acreana* is considered to be a transitional state towards its complete absence in *A. cajennensis* and *A. brevistigma*, then this provides additional support for the monophyly of a group comprising these four species. In *Angiopolybia*, the dorsal pronotal carina is also residual, but is different from the condition observed in *A. lobipleura* and *A. acreana.* In *Angiopolybia*, the carina is completely reduced at sides, and weak but nevertheless acutely produced at the center.

Among these four species, as discussed above, *A. acreana* shares some derived features with *A. brevistigma:* the shape of the prestigma, and the separation between the clypeus and eyes. But as also noted above, both of these features vary somewhat in *A. cajennensis.* On the other hand, *A. cajennensis* and *A. brevistigma* share the derived character of loss of the dorsal pronotal carina, and *A. acreana* and *A. lobipleura* both have the subantennal sulci pale and very weakly impressed, and the head narrowed proportionally in lateral view, with the upper part of the gena being slightly narrower than the eye (Fig. 1C). This distribution of apomorphies supports the inference of a sister-group relationship between *A. acreana* and *A. lobipleura* on the one hand, and *A. cajennensis* and *A. brevistigma* on the other, and we consider that to be a better established hypothesis on present evidence.

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